1. A planarizing process comprising:

providing a first layer of a material having an upper surface;

etching in said first layer a cavity having a floor;

forming on said cavity floor a copper coil, having at least 5 turns and a DC resistance that is less than about 3 ohms;

applying a layer of photoresist to a thickness that is more than sufficient to cover said lower coil;

hard baking said layer of photoresist and then planarizing so that between about 1.5 and 2 microns of remaining hard baked photoresist extends above said upper surface;

coating said layer of baked photoresist with a layer of alumina; and

planarizing by means of chemical mechanical polishing until said coil is just exposed and no photoresist remains on said upper surface.

2. The process recited in claim 1 wherein said cavity has a depth between about 2 and 3 microns.

3. The process recited in claim 1 wherein said cavity has a width between about 20 and 60 microns and a length between about 6 and 10 microns.

4. The process recited in claim 1 wherein the step of forming a copper coil further comprises:

depositing a conductive seed layer;

defining a location and shape for said coil by means of a photoresist pattern and then electroplating copper to a thickness between about 1.5 and 2.5 microns onto all areas not covered by said photoresist;

stripping away all photoresist; and

then removing all areas of the seed layer that are not covered by copper.

5. The process recited in claim 1 wherein the step of applying a layer of photoresist further comprises use of spin coating.

6. The process recited in claim 1 wherein the step of hard baking said layer of photoresist further comprises baking in nitrogen for between about 150 and 250°C for between about 1 to 5 hours.

7. The process recited in claim 1 wherein said layer of alumina is deposited to a thickness between about 5 and 6 microns.

8. The process recited in claim 1 wherein said layer of alumina is deposited by means of sputtering.

9. A process to manufacture a stitched pole magnetic write head, having an air

bearing surface, comprising:

providing a seed layer on a substrate and depositing a bottom pole layer on said seed layer;

depositing onto said bottom pole layer a layer of high permeability material;

etching in said layer of high permeability material a shallow trench, having sloping sides, whose depth will determine a throat width for said read head;

overfilling said trench with a first layer of insulating material and then planarizing so that said filled trench has an upper surface that is coplanar with said seed layer;

depositing a write gap layer on said seed layer;

then depositing a stitched pole layer and etching therein a cavity thereby forming a coil housing area;

depositing a protective insulating layer over all exposed surfaces;

forming on said protective insulating layer, inside said coil housing, a lower copper coil, having at least 5 turns and a DC resistance that is less than about 3 ohms;

depositing a first layer of baked photoresist to a thickness that is more than sufficient to cover said lower coil;

then coating said first layer of baked photoresist with a layer of alumina and planarizing until said lower coil is just exposed, whereby no photoresist extends out as far as said air bearing surface;

depositing, and then patterning, a second insulating layer to form a lid that fully covers said lower coil and coil housing area;

on said lid, forming an upper copper coil having at least 4 turns and a DC resistance that is less than about 2 ohms;

forming an electrical connection between said upper and lower coils and then selectively encapsulating said upper coil in a second layer of baked photoresist; and

then depositing a top pole layer while leaving a portion of said stitched pole near said air bearing surface uncovered.

10. The process recited in claim 9 wherein said substrate is a completed magnetic read head, including top and bottom shields.

11. The process recited in claim 9 wherein said bottom pole layer is CoFe, CoNiFe, or NiFe.

12. The process recited in claim 9 wherein said bottom pole layer is deposited to a thickness between about 1 and 3 microns.

13. The process recited in claim 9 wherein said high permeability layer is CoFeN or CoFe.

14. The process recited in claim 9 wherein said high permeability pole layer is deposited to a thickness between about 0.1 and 0.5 microns.

15. The process recited in claim 9 wherein the depth of said shallow trench is between about 0.1 and 0.5 microns.

16. The process recited in claim 9 wherein said seed layer, onto which is deposited a bottom pole layer, is CoFeN.

17. The process recited in claim 9 wherein said stitched pole layer is deposited to a thickness between about and 2 microns.

18. The process recited in claim 9 wherein said coil housing has a depth between about 2 and 3 microns.

19. The process recited in claim 9 wherein the step of forming said lower copper coil further comprises:

depositing a conductive seed layer;

defining a location and shape for said coil by means of a photoresist pattern and then electroplating copper to a thickness between about 1.5 and 2.5 microns onto all areas not covered by said photoresist;

stripping away all photoresist; and

then removing all areas of the seed layer that are not covered by copper.

20. The process recited in claim 9 wherein said layer of alumina is deposited to a thickness between about 5 and 6 microns.

21. A stitched pole magnetic write head, having an air bearing surface, comprising:

a bottom pole layer on a seed layer;

a layer of high permeability materia on said bottom pole layer;

in said layer of high permeability material, a shallow trench, having sloping sides, whose depth determines a throat width for said read head;

said trench being filled with a first layer of insulating material so that its upper surface is coplanar with said seed layer;

a write gap layer;

a stitched pole layer on said write gap layer and a coil housing area having the form of a cavity in said stitched pole layer;

a protective insulating layer that lines said coil housing cavity and covers said stitched pole layer;

inside said coil housing on said protective insulating layer, a lower copper coil, having at least 5 turns and a DC resistance that is less than about 3 ohms, said coil housing being filled with a first layer of baked photoresist having an upper surface that is coplanar with that of said lower coil;

an insulating lid that fully covers said lower coil and coil housing area;

on said lid, an upper copper coil having at least 4 turns and a DC resistance that

is less than about 2 ohms;

an electrical connection between said upper and lower coils;

said upper coil being selectively encapsulated in a second layer of baked photoresist; and

a top pole layer that covers all surfaces except a portion of said stitched pole near said air bearing surface.

22. The write head described in claim 21 wherein said seed layer lies on a completed magnetic read head, including top and bottom shields.

23. The write head described in claim 21 wherein said bottom pole layer is CoFe, CoNiFe, or NiFe.

24. The write head described in claim 21 wherein said bottom pole layer has a thickness between about 1 and 3 microns.

25. The write head described in claim 21 wherein said high permeability layer is CoFeN or CoFe.

26. The write head described in claim 21 wherein said high permeability pole layer has a thickness between about 0.1 and 0.5 microns.

27. The write head described in claim 21 wherein the depth of said shallow trench is between about 0.1 and 0.5 microns.

28. The write head described in claim 21 wherein said stitched pole layer has a thickness between about and 2 microns.

29. The write head described in claim 21 wherein said coil housing has a depth between about 2 and 3 microns.

30. The write head described in claim 21 wherein said layer of alumina has a thickness between about 5 and 6 microns.